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Title:	2011 Radioactive Waste Management Basis for the ADEP-TA-21 Closure Project
Author(s):	CORIZ, MICHELLE L.
Intended for:	DOE RWMB Waste management Reading Room DOE

Los Alamos
NATIONAL LABORATORY
EST.1943

Waste and Environmental Services Division
P.O. Box 1663, MS M996
Los Alamos, New Mexico 87545
505-667-0808/Fax 505-665-3811

Date: November 20, 2011
Refer To: WES-DO-11-0020

Mr. George J. Rael, Field Element Manager
Nuclear National Security Administration
Environmental Operations
Los Alamos Site Office
3747 West Jemez Rd., MS A316
Los Alamos, New Mexico 87544

2011 Radioactive Waste Management Basis for the ADEP-TA-21 Closure Project

The Waste Certification Program (WCP) has reviewed the ADEP-TA-21 Closure Project Radioactive Waste Management Basis (RWMB) submittal for TA-21. The facility has requested RWMB approval for a two-year timeframe. WCP concurs with the waste generation and operation information provided. Routine operations planned during the period are the removal of the remaining roll-off bins; however, if non-routine operations are identified during the two-year period, a revision will be submitted. The referenced safety and facility documents can be obtained through the Waste Certification Program office.

Sincerely,

Alison Dorries
Division Leader
Waste and Environmental Services
AD:rjm

Enc: Radioactive Waste Management Basis ADEP-TA-21 Closure Project 2011-07, Rev 0
Distribution:
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Alison Dorries, WES-DO, K491
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Michelle Coriz, WES-WGS, E522
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IRM-RMMSO, A150

Form 2107

Los Alamos NATIONAL LABORATORY EST. 1943

Radioactive Waste Management Basis Report Form

21, 2011-10, Rev. #0 RJM

☐ Extension Requested (Detailed letter must be attached.)

FOD YR-MO, Rev. #

Reporting Organization	Report Date	Facility Hazard:	☐ High	☒ Moderate	☐ Low
ADEP-TA-21	7/29/11				

Purpose

The purpose of this report form is to document the radioactive activities at Technical Area(s) 21, which are operated by the ADEP-TA organization at Los Alamos National Laboratory (LANL or the Laboratory). This Radioactive Waste Management Basis (RWMB) Report Form constitutes compliance with the applicable requirements of Department of Energy (DOE) Order 435.1, *Radioactive Waste Management*, and in DOE Manual 435.1, Chapter IV, *Low-Level Waste Requirements*, and Chapter III, *Transuranic Waste Requirements*. The organization must submit an RWMB Report Form to the Waste and Environmental Services-Waste Generator Services Group (WES-WGS), Waste Certification Program (WCP) by July 30 upon expiration or when a significant waste stream change has occurred. WCP must compile the LANL Organization RWMB Reports and submit this package for DOE reporting before August 30 in order to maintain approval.

Time Requested for RWMB Approval year(s) **Report Authorization**

	Name	Signature	Date
Facility Operations Director (FOD)/Division Leader: Andy Baumer	DAVID E FREDERICK FOR		08.04.2011
Report Preparer:	DEREK FAULK		8-4-2011
Waste Certification Specialist:	Randy J. Martinez		10/13/11

Waste Certification Program (WCP) Annual Review

	Name	Signature	Date
Waste Certification Specialist:			

Waste Authorization Basis

List all facility/operations authorization basis documents and include specific facility waste management documents.

☒ Nuclear Facility ☒ Non-Nuclear Facility ☐ TSDF ☐ Accelerator ☐ An attached list is provided

Safety or Facility Document Name	Document Number	Last Rev. Date	Document Owner
☒ Waste Management Plan	MDAB-PLAN-00014	Dec 2010	TA-21 FOD
☐ Facility Waste Certification Plan (FWCP). *Do not complete pg. 3*			
☐ Operation Record			
☒ Documented Safety Analysis (DSA)	MDAB-ABD-1001, R0	Oct 2008	TA-21 FOD
☒ Technical Safety Requirement (TSR)	MDAB-ADB-1002, R0	Oct 2008	TA-21 FOD
☒ Safety Evaluation Report (SER)	SER MDAB.01, R0	Dec 2008	TA-21 FOD
☐ Health & Safety Plan/Job Hazard Analysis			
☐ Site Treatment Plan			
☒ DOE O 435.1 Exemption for Disposal at a Non-DOE Facility	See Attached		
☐ Closure Plan			
☐ Monitoring			
☒ Characterization and Mgmt of ER Project Waste	ADEP-SOP-5238, R0	Sept 2009	ADEP
☒ DSA for S&M of Nuclear Env. Sites at LANL	NES-ABD-0101, R4	Feb 2011	TA-21 FOD

Institutional Document	Document Number	Institutional Document	Document Number
☒ Waste Management	P409	☒ LANL Waste Acceptance Criteria	P930-1
☒ Radioactive Waste Certification Program	P930-2	☒ Off-Site Shipment of Chemical, Hazardous, or Radioactive Waste	P930-3
☐ NMED LANL Hazardous Waste Facility Permit	NM0890010515-1	☒ LANL Packaging and Transportation Program Procedure	P151-1
☒ Environmental Management System	SD400	☐ National Environmental Policy Act (NEPA)	42 U.S.C. 4321

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21, 2011-10, Rev #0

FOD YR-MO, Rev. #

Waste and Activity by Building and Destination

For any building/location managing radiological materials, enter the TA-Bldg No, (e.g., 55-0078 or 55-outside) then click on waste activity and destination box and select the appropriate descriptors for the management activity type (see key below) and waste destination. Identify total organization estimated annual volume above destination box.

TA-Bldg. No.	LLW Activity	Estimated Annual Volume 26,000 m3 / Destination	Waste Matrix	MLLW Activity	Estimated Annual Volume 8000 m3 / Destination	Waste Matrix	TRU Activity	Estimated Annual Volume 50 m3 / Destination	Waste Matrix	Mixed TRU Activity	Estimated Annual Volume 20 m3 / Destination	Waste Matrix
MDA-B	All	On-site Disposal	Solid	All	Off-site Disposal	Solid	All	WIPP	Solid	All	WIPP	Solid
Comment:												
21-257	All	On-site Disposal	Solid	All	Off-site Disposal	Solid	All	WIPP	Solid	None	N/A	N/A
Comment:												
MDA-A	All	On-site Disposal	Solid	All	Off-site Disposal	Solid	All	WIPP	Solid	All	WIPP	Solid
Comment:												
Gen Tanks	All	On-site Disposal	Solid/Liquid	All	Off-site Disposal	Solid	All	WIPP	Solid	All	WIPP	Solid
Comment:												
Delayed	All	On-site Disposal	Solid	All	Off-site Disposal	Solid	None	N/A	N/A	None	N/A	N/A
Comment:												
	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A
Comment:												
	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A
Comment:												
	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A
Comment:												
	All	N/A	N/A	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A
Comment:												
	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A
Comment:												
	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A	None	N/A	N/A
Comment:												

Activity: Recyc = Recycling. Stage = Staging. Store = Storage. SS = Stage & Store. Treat = Waste Treatment. SR = Stage & Repack. All = All Activities.

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Radioactive Waste Management Basis Report Form (Page 3)

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DOE O/M 435.1 Facility/Organization Specific Summaries	FOD YR-MO, Rev. #

Facility Scope

Provide a brief description of organization activities and operations including waste generation, management, tracking, reporting, and preliminary disposal characterization.

All previously existing information will remain the same.

Projects are expanding to include TA-21 Delayed Sites.

Life-Cycle Waste Management

Describe the waste management process at the organization, security of waste funding, and the cradle to grave management. Specify how applicable procedures address waste management and controls. Utilize Environmental Management System (EMS) support.

Response:

All previously existing information will remain the same.

TRU and MTRU generated will be managed by the WMCs and associated waste services field personel. All waste is managed per the requirements of DOE M 435.1-1 for TRU and MTRU, and 40 CFR 260-265 for the hazardous waste components of MTRU. The waste will be characterized by the characterization engineers on-site. All waste determined TRU or MTRU will meet WAC criteria for shipment to TA-54 for final disposition at WIPP. The MAR tracking system on-site is managed during all operational hours to ensure levels of radiological waste do not exceed the established limits. Once waste has left the site and transferred to TA-54, management of the MAR tracking system is adjusted to represent current time.

All radiological waste will be managed per DOE 435.1 and LANL requirements by the WMC in the field and by management through adminstration processes such as plans and procedures. The waste generated will be characterized to determine if radiological components exist. When radiological characterization data identifies radiological components, the WMC will apply appropriate labeling and place in registered site storage areas. The characterization engineers will determine the amount of radiological levels in waste bins for LLW or TRU waste levels. The waste management personnel on-site will work with TA-54 for shipping and disposition of waste. LLW waste will be placed in TA-54 attic or operations space and TRU will be dispositioned through TA-54 to WIPP.

Characterization

Provide a description of how the organization implements the radioactive waste characterization process at the organization and the document support. Detail the routine method of waste characterization for the organization.

Response:

All previously existing information will remain the same.

Samples are shipped off-site for analysis. The analytical data is given to the TA-21 onsite waste characterization engineers for waste determination. Waste determination concluding TRU and MTRU determines the management of waste onstie and the disposition requirements.

The TA-21 onsite waste characterization engineers are responsible for making the radiological level determinations for waste generated by MDA-A and General Tanks projects. The waste determination will dictate how the waste is managed onsite until shipping and disposition. Characterization will also be determined through environmental sampling campaigns prior to excavation.

Packaging and Transportation

Specify organization-specific procedures for packaging operations and preparations for transportation. Laboratory personnel are required to meet the requirements of P151-1, *LANL Packaging and Transportation Program Procedure*, to ensure compliance with Department of Transportation (DOT) requirements. Identify the controls that will be implemented to prevent contents from being added to waste containers or tampered with while in a registered waste area.

Response:

All previously existing information will remain the same.

TRU and MTRU waste streams will be generated. As waste is generated (soil and debris), it is immediately placed in containers compliant with LANL WAC, Off-site TSDF WAC, and DOT regulations. Once characterization is determined, WPFs and WDRs are prepared to ship the waste to TA-54 and dispositioned at WIPP. TIDs are placed on every bin to ensure contents during storage time periods for shipping and transport purposes.

Staging/Storage

Describe the accumulation and holding of radioactive waste that is treated, or transported to or from the organization. Describe the organization's generation process and management trail into a registered waste area.

Response:

All previously existing information will remain the same.

Waste is placed in approved shipping containers upon generation. The waste awaits characterization in a registred radiological storage area labeled with WMC name and phone, contents, and seal date. Radiological waste will be dispositioned within one year of seal date.

TRU and MTRU will be shipped to TA-54 for disposition at WIPP through the existing LANL program.

Quality Assurance Program

Describe the organization-specific procedures that ensure the traceability of waste characterization records, container procurement, and the document control process.

Response:

All previously existing information will remain the same.

All documents are prepared and checked through the quality assurance processes. Waste characterization records are managed through WII and WCATS. All records are submitted to the ADEP Records Processing Facility. Container procurement occurs through the STR.

Training and Qualification

All waste management personnel (Waste Management Coordinators [WMCs]; Environment, Safety, Health, and Quality [ESH&Q]; Environmental Tech; etc.) are required to maintain qualification standards. Describe how the organization implements any other radioactive waste management specific training required by the organization.

Response:

All previously existing information will remain the same.

Project management and subcontractor management ensure employee training is complete and up to date prior to start of work and throughout project duration.

Waste Minimization and Pollution Prevention

Document the implementation of waste minimization and pollution prevention programs for radioactive waste management facilities, operations, and activities. Provide assurance of waste stream evaluation before generation of waste.

Response:

All previously existing information will remain the same.

All waste minimization and pollution prevention efforts for radiological waste management follow previous information submitted in the RWMB. The project specific waste management plans will specify any additional measures taken to exced waste minimization and pollution prevention goals.

Faulk, Derek G

Subject: FW: DOE 435.1 TA-21 ARRA MLLW Exemption

-----Original Message-----
From: Henckel, George C. [mailto:GHenckel@doeal.gov]
Sent: Monday, March 14, 2011 9:10 AM
To: Newberry, Paul N; Allen, Donald L; Duy, Charles W; George, Victoria A
Subject: DOE 435.1 TA-21 ARRA MLLW Exemption

HS-22 requires no further consultation and you may proceed to ship Class A MLLW for treatment and disposal to the Energy Solutions Clive, UT facility.

Faulk, Derek G

Subject: FW: LASO Exemption Requests for Disposal of LLW at a non-DOE facility

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From: Gaona, Albes [mailto:AGaona@doeal.gov]
Sent: Wednesday, March 31, 2010 2:50 PM
To: Dover, Gordon L; Allen, Donald L
Cc: Duran, Arturo Q.; Nickless, David J; Trollinger, Everett A; Trujillo, Leonard "Tony"; Massey, Ramoncita N.
Subject: FW: LASO Exemption Requests for Disposal of LLW at a non-DOE facility

For added clarity and formality, and based on the email below from HQ, you are clear to proceed with the shipping of ARRA LLW. Please let us know, as well as the community stakeholders about your shipping campaign plans.

Albes Gaona
DOE TA-21 ARRA
Waste Manager

From: Henckel, George C.
Sent: Wednesday, March 31, 2010 8:04 AM
To: Miller, Scotty A
Cc: Gaona, Albes; Massey, Ramoncita N.; Bishop, M. Lee; Dover, Gordon L; Allen, Donald L
Subject: FW: LASO Exemption Requests for Disposal of LLW at a non-DOE facility

Based on Ed's response we need to make the changes and I can send him an email for his files. The highlighted section provides HQ concurrence to proceed.

From: Regnier, Edward [mailto:Edward.Regnier@hq.doe.gov]
Sent: Monday, March 29, 2010 7:03 AM
To: Henckel, George C.
Subject: FW: LASO Exemption Requests for Disposal of LLW at a non-DOE facility

I got an "undeliverable" message on the other e-mail, so, in case this one didn't go through, here it is.

---

r, Edward
/larch 26, 2010 5:02 PM
George C; Rael, George
Robert; Longo, Thomas; Tonkay, Douglas; Traceski, Thomas
ASO Exemption Requests for Disposal of LLW at a non-DOE facility

George,

We have reviewed three DOE Order 435.1 exemption requests, which were transmitted from the Los Alamos Site Office on March 11, 2010, for disposal of Los Alamos National Laboratory low-level radioactive waste (LLW) in a non-DOE facility . These requests were for disposal of the LLW from at the EnergySolutions disposal facility in Clive, Utah. The requests were for:

1) Approximately 25,500 cubic yards of bulk LLW debris generated from decontamination and demolition of Technical Area (TA) 21 buildings.

2) Approximately 22,500 cubic yards of bulk LLW soil and debris from the excavation and remediation of TA-21 Material Disposal Area (MDA) B, Solid Waste Management Unit 21-015.

3) Approximately 10,000 cubic feet of bulk LLW from the decontamination and decommissioning of the TA-21 Tritium Systems Test Assembly.

In a March 24 e-mail to me, copied to, among others, George Rael, Doug Tonkay noted some incomplete justifications and questionable waste volume calculations which may require amendment to the exemption requests. However, none of these issues would significantly adversely affect the substantial benefits of using the non-DOE facility. Thus, we have no concerns with proceeding per the exemption request.

In particular, Doug noted that, for all three exemptions, the time required for approval of a waste profile by NTS appears to have been significantly over-estimated and that there is no discussion of how long LANL takes to prepare a profile or any detail on why or how this affects the overall project path. While this is not a critical factor here, if an NTS profile can be processed in much less time, this could influence future decisions.

For the TA-21 building demolition debris, Doug notes an apparent error in the external package volume used for the NTS disposal cost estimates. If the volume used is incorrect, there needs to be a revision or correcting addendum to the exemption. I also note that the cover memorandum states the volume as 25,500 cubic feet instead of cubic yards.

For the MDA B Soil Doug notes that a much lower disposal rate for the soil should be available through a DOE Ohio contract. This would make non-DOE disposal even more advantageous. There is a minor omission on the last page: I assume that the exemption request documents will also be retained.

The cover memorandum for the Tritium Systems Test Assembly waste states the volume as 10,000 cubic feet instead of cubic yards.

If a revised exemption or an addendum is prepared, we would appreciate receiving a copy for our files.

Edward Regnier, HS-22